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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107

MEMORANDUM

APR 06 1990

FROM: Terry N. Oda, Chief
PA Enforcement Section (3WM51)

TO: Harry Harbold
Regional Program Manager (3HW24)

RE: Coke Breeze Contamination at Morgantown Ordnance Works Site

This is in response to questions you recently asked in connection with coking operations at the Morgantown Site. I have reviewed a process diagram provided by you detailing coking operations at the Site and a December 14, 1989 file memorandum documenting your December 12, 1989 telephone conversation with Mr. William Smyth.

The December 14, 1989 memorandum states that Mr. Smyth described "the process by which hot coke was quenched and ash and cinders would fall to the ground and collect in large ash piles." The "ash and cinders" referred to by Mr. Smyth would have been coke "breeze" resulting from the quenching process. Incandescent coke is quenched with water soon after the coke leaves the ovens. This "breeze" is actually fine particles of coke which have picked up contaminants from the quench water. The level of contamination present in this breeze will depend on contaminant concentrations in the quench water. These levels will vary from the mg/1 range for phenolic compounds (as measured by the 4AAP method) where recycled river water is used to much higher levels where process water from the byproduct coking operation is used. In either case, the coke breeze will likely be contaminated to some degree with, among other substances, phenolic compounds, benzene, napthalene, and polynuclear aromatic hydrocarbons such as benzo(k)flouranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, benzo(a)pyrene, and benzo(a)anthracene.

If the levels of coal chemical-type pollutants are extremely high, it is possible that coal tar or other residues were mixed and disposed with the coke breeze. It is also possible that other coke plant wastes including tar decanter sludge, which includes solid particles, might have been disposed at this site and account for the high levels of contamination found.

I hope the above adequately responds to your questions. If I can be of further assistance, please let me know.